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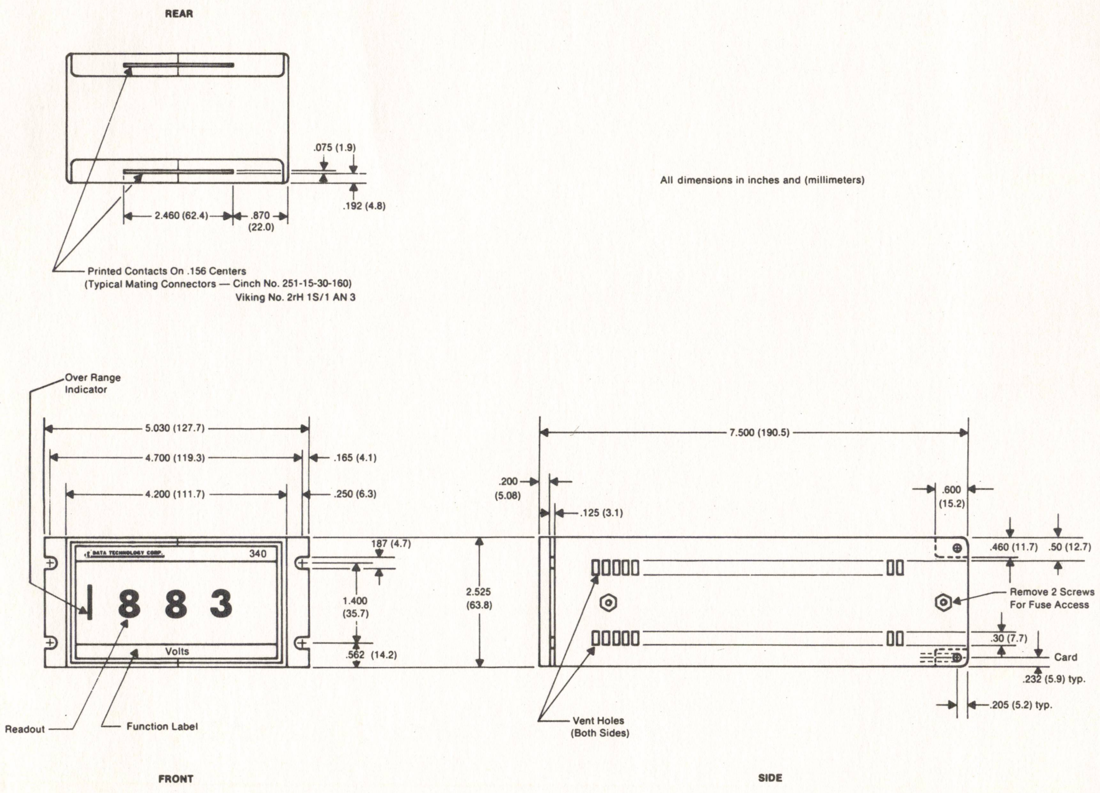
DATA TECHNOLOGY CORPORATION

preliminary instruction manual 340A, 342 and 343 digital panel meter



All dimensions in inches and (millimeters)

340A Mechanical Outline Drawing

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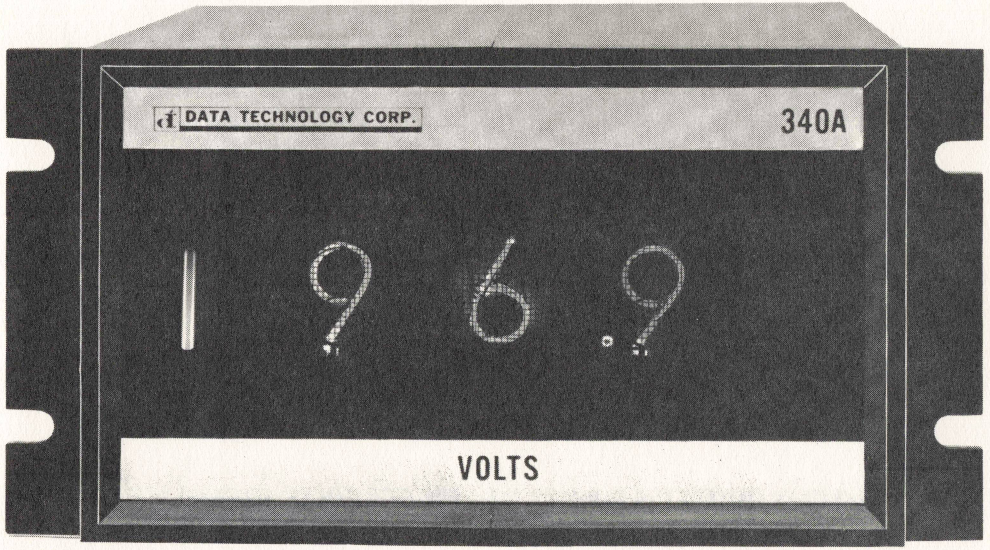
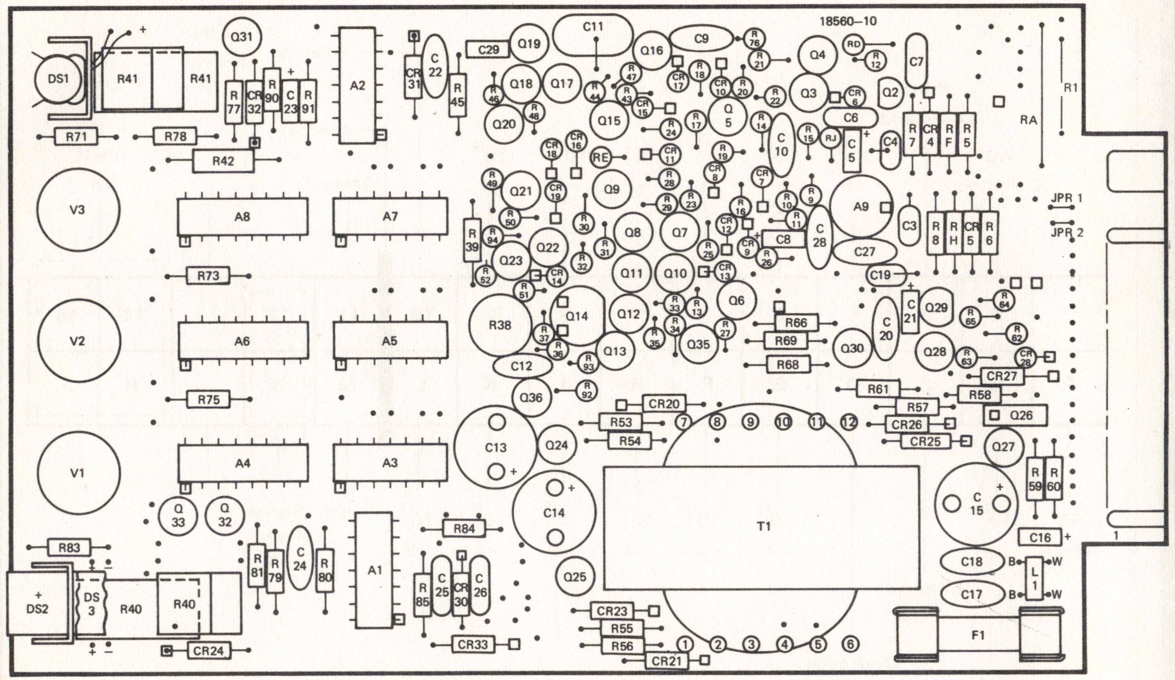
340A MECHANICAL OUTLINE DRAWING



Frontispiece



Model 343 Mother Board Assembly

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SECTION I 340A

340A SPECIFICATIONS

INPUT CHARACTERISTICS

Selection of any one of 6 DC Voltage Ranges:

Range (Full Scale)	Resolution	Input Impedance	Maximum Voltage
19.99 mV	10 µV	> 100 MΩ	250 V
199.9 mV	100 µV	> 100 MΩ	250 V
1.999 V	1 mV	>1000 MΩ	250 V
19.99 V	10 mV	10 MΩ	1 KV
199.9 V	100 mV	10 MΩ	1 KV
999 V	1 V	10 MΩ	1 KV

Selection of any one of 7 DC Current Ranges:

Range (Full Scale)	Resolution	Maximum Full Scale Voltage
199.9 nA	100 pA	200 mV
1.999 µA	1 nA	200 mV
19.99 µA	10 nA	200 mV
199.9 µA	1 µA	200 mV
19.99 mA	10 µA	200 mV
19 9.9 mA	100 µA	200 mV

Signal Input Configuration:
High, Low Inputs located on rear.

Selection of any one of 5 Ohm Ranges:

Range (Full Scale)	Resolution	Output Current	Maximum Open Circuit Voltage
199.9 Ω	0.1 Ω	10 mA	>5 V
1.999 KΩ	1 Ω	1 mA	>5 V
19.99 KΩ	10 Ω	100 µA	>5 V
199.9 KΩ	100 Ω	10 µA	>5 V
1.999 MΩ	1 KΩ	1 µA	>5 V

ACCURACY

Functions & Ranges	23 ±1°C 7 hrs. ±% rdg,	±% FS	10–40°C 60 days ±% rdg,	±% FS
DC: 2,20,200 V	0.1	.05	0.1	0.1
DC: 200 mV	0.1	.15	0.1	0.25
DC: 20 mV	0.1	0.2	0.1	0.4
DC: 100 V	0.1	0.1	0.1	0.2
DC Current		.25		0.5
Ohms				
200 Ω - 200 KΩ	0.1	0.1	0.3	0.2
2 MΩ	0.2	0.2	0.5	0.5

340A SPECIFICATIONS (Cont.)

SPEED

Reading Rate:	5 readings/second, nominal
Conversion Time:	10 msec., maximum

OUTPUT CHARACTERISTICS

Visual: Display storage includes 3 digital readout indicators with one overrange digit, decimal point, and flashing polarity indication when input configuration is the wrong polarity.

Overrange Indication: Flashing overrange indication when the input has exceeded the full scale value of the selected range.

Electrical: Digital Outputs and Remote Control (optional).

OUTPUTS & CONTROLS	CHARACTERISTICS
BCD 1248	T^{2}L micrologic
3 Decades	
Logic "1"	>2.4 V
Logic "0"	<0.4 V
	Sink for 4 mA
Most Significant Decade	
Logic "1"	+1 V min.
Logic "0"	<.25 V max.
overrange	+5 V nominal
Wrong Polarity	+1 V min.
Remote Control Signal	Sink to +0.25 V max. 1 mA nominal
Print Command	Transition from +5 V (nominal) to 0.4 V maximum during conversion time

CONTROLS

Zero and full scale calibration adjustments are made available on the front panel by removing the snap-on identification labels.

INPUT POWER

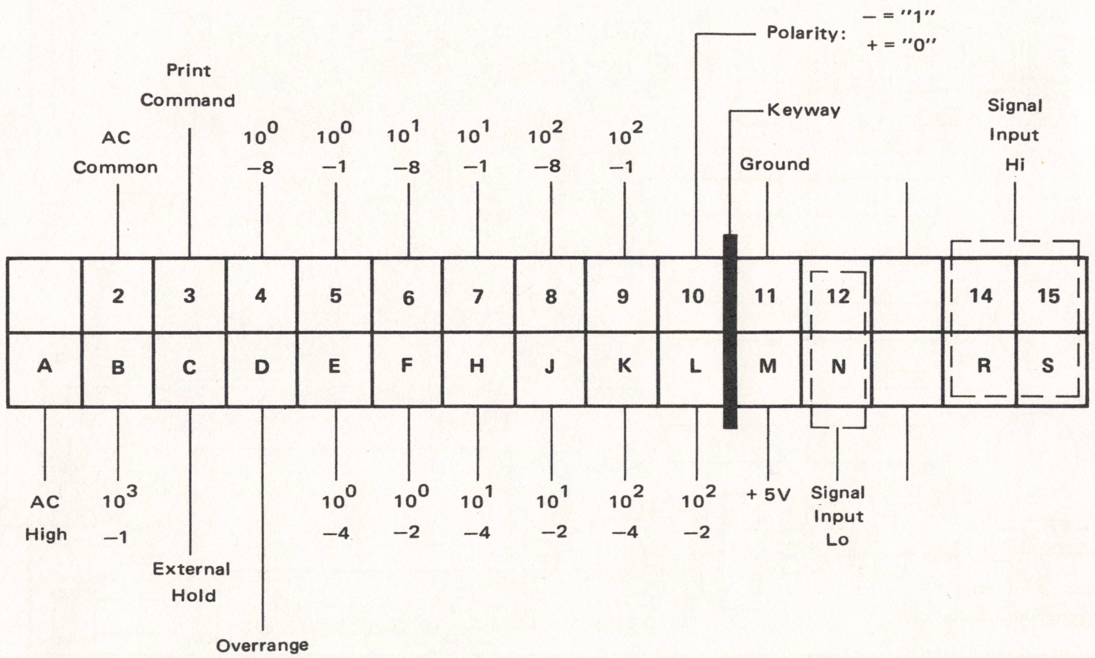
105 to 125 V, 50 to 60 Hz, less than 15 watts.

PHYSICAL CHARACTERISTICS

Dimensions:	2.5" H x 5.0" W x 7.5" D
Color:	Black; other colors available on request
Weight:	Approximately 15 ounces

ENVIRONMENT

Temperature:	Operating range 0°C to +55°C
Humidity:	80% maximum relative humidity



343 Pin Configuration

343 SPECIFICATIONS (Cont.)

OUTPUTS & CONTROLS	CHARACTERISTICS
BCD 1248	T^2L Micrologic
3 Decades	
Logic "1"	>2.4 V
Logic "0"	<0.4 V
	Sink for 4 mA
Most Significant Decade	
Logic "1"	+1 V min.
Logic "0"	0.25 V max.
Overrange	+5 V nominal
Polarity	
Positive	(+) +0.25 V max.
Negative	(—) +1 V min.
Remote Control Signal	Sink to +0.25 V max. 1 mA nominal
Print Command	Transition from +5 V nominal to +0.4 max. during conversion time.

CONTROLS

Zero and full scale calibration adjustments are made available on the front panel by removing the snap-on identification lables.

INPUT POWER

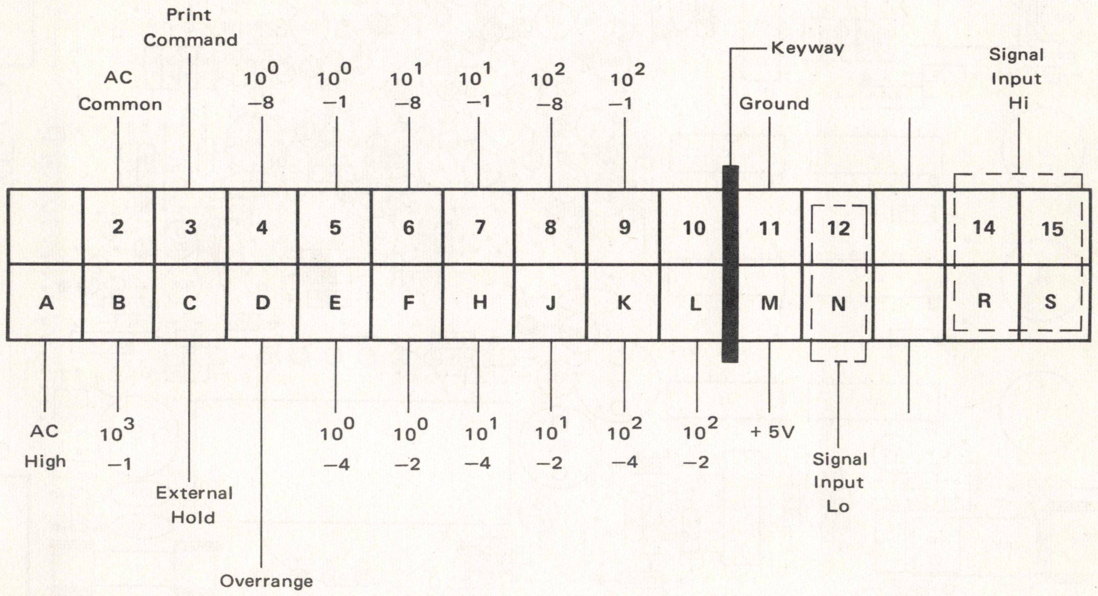
105 to 125 V, 50 to 60 Hz, less than 15 watts.

PHYSICAL CHARACTERISTICS

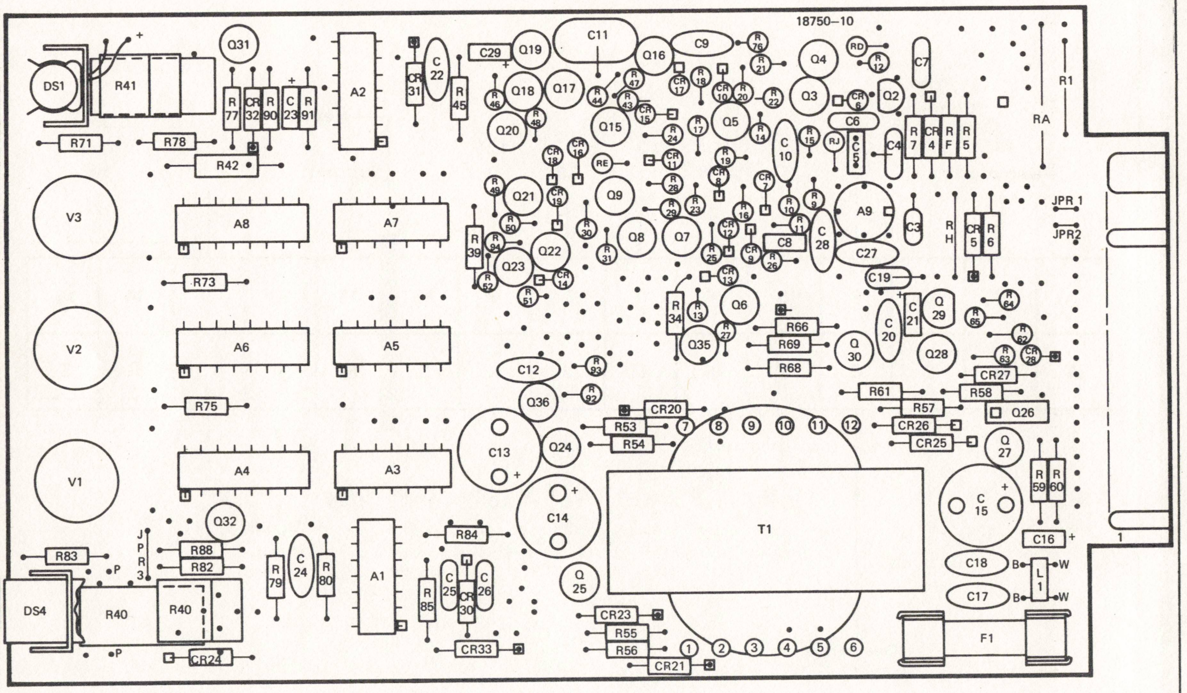
Dimensions: 2.5" H x 5.0" W x 7.5" D
Color: Black; other colors available on request
Weight: Approximately 25 ounces

ENVIRONMENT

Temperature: Operating Range 0°C to +55°C
Humidity: 80% maximum relative humidity



340A Pin Configuration



Model 340A Mother Board Assembly

SECTION III 343

343 SPECIFICATIONS

INPUT CHARACTERISTICS

Selection of any one of 5 DC Voltage Ranges:

Range (Full Scale)	Resolution	Input Impedance	Maximum Voltage
19.99 mV	10 μV	> 100 MΩ	250 V
199.9 mV	100 μ V	> 100 MΩ	250 V
1.999 V	1 mV	>1000 MΩ	250 V
19.99 V	10 mV	10 MΩ	1 KV
199.9 V	100 mV	10 MΩ	1 KV
999 V	1 V	10 MΩ	1 KV

Selection of any one of 7 DC Current Ranges:

Range (Full Scale)	Resolution	Maximum Full Scale Voltage
199.9 nA	100 pA	200 mV
1.999 μA	1 nA	200 mV
19.99 μA	10 nA	200 mV
199.9 μA	100 nA	200 mV
1.999 mA	1 μA	200 mV
19.99 mA	10 μA	200 mV
199.9 mA	100 μA	200 mV

Signal Input Configuration:
High, Low Inputs located on rear connector.

ACCURACY

Functions and Ranges	23 ±1°C 7 hrs.		10–40°C 60 days	
	±% rdg,	±% FS	±% rdg,	±%FS
DC: 2, 20, 200 V	0.1	.05	0.1	0.1
DC: 200 mV	0.1	.15	0.1	0.25
DC: 20 mV	0.1	0.2	0.1	0.4
DC: 1000 V	0.1	0.1	0.1	0.2
DC Current		.25		0.5

SPEED

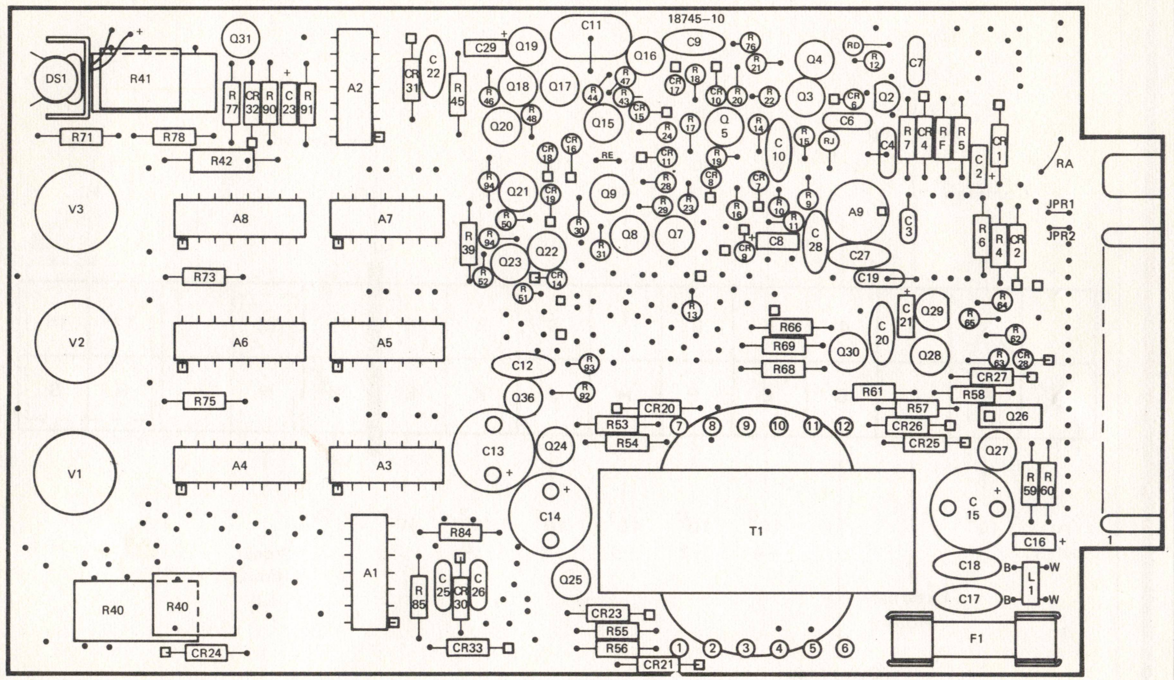
Reading Rate:	5 readings/second, nominal
Conversion Time:	10 msec., maximum

OUTPUT CHARACTERISTICS

Visual: Display storage includes 3 digital readout indicators with one overrange digit, decimal point, and (+) (—) illuminated automatic polarity indication.

Overrange Indication: Flashing overrange indication when the input has exceeded the full scale value of the selected range.

Electrical: Digital Outputs and Remote Control (Optional)



Model 342 Mother Board Assembly

SECTION II 342

342 SPECIFICATIONS

INPUT CHARACTERISTICS

Selection of any one of 3 AC Voltage Ranges:

Range (Full Scale)	Resolution	Input Impedance
19.99 Vrms	10 mV	1 MΩ
199.9 Vrms	100 mV	5 MΩ
750 Vrms	1 V	5 MΩ

FREQUENCY RANGE

45 Hz to 1 KHz useable to 10 KHz

Signal Input Configuration:
High, Low Inputs located on rear connector.

ACCURACY

Range	23° ±1°C 7 hrs. ±% rdg,	 ±% FS	10–40°C 60 days ±% rdg,	 ±% FS
19.99 VRms	0.5	0.2	0.5	0.2
199.9 Vrms	0.2	0.2	0.2	0.2
750 Vrms	0.2	0.2	0.2	0.2

SPEED

Reading Rate: 5 readings/second, nominal
Conversion Time: 10 msec., maximum
Response Time: 10 seconds to rated accuracy

OUTPUT CHARACTERISTICS

Visual: Display Storage includes 3 digital readout indicators with one overrange digit and decimal point.

Overrange Indication: Flashing overrange indication when the input has exceeded the full scale value of the selected range.

Electrical: Digital Outputs and Remote Control (Optional)

OUTPUTS & CONTROLS	CHARACTERISTICS
BCD 1248	T^2L Micrologic
3 Decades	
Logic "1"	$>$2.4 V
Logic "0"	$<$0.4 V
	Sink for 4 mA
Most Significant Decade	
Logic "1"	+1 V min.
Logic "0"	$<$.25 V
Overrange	+5 V nominal
Remote Control Signal	Sink to GND, 1 mA max.
Print Command	Transition from 0 V to +5 V at end of conversion

342 SPECIFICATIONS (Cont.)

CONTROLS

Zero and full scale calibration adjustments are made available on the front panel by removing the snap-on identification lables.

INPUT POWER

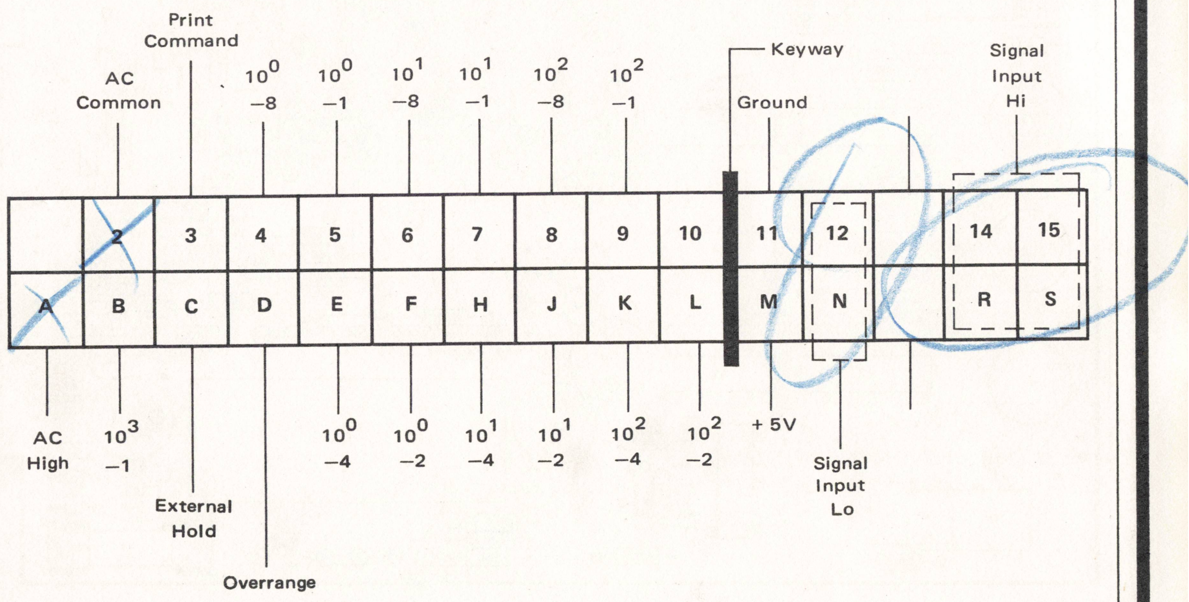
105 to 125 V, 50 to 60 Hz, less than 15 watts

PHYSICAL CHARACTERISTICS

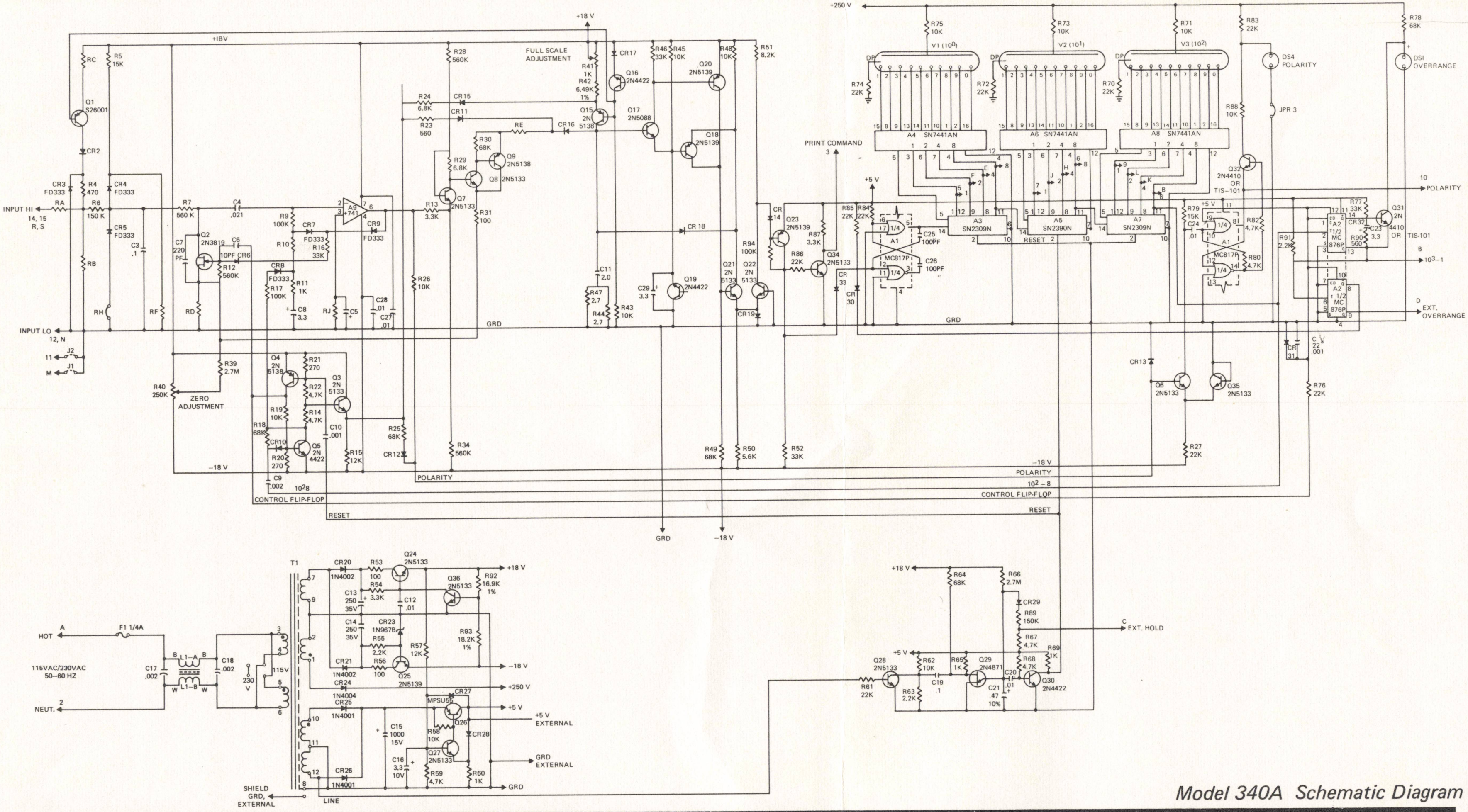
Dimensions:	2.5" H x 5.0" W x 7.5" D
Color:	Black; other colors available on request
Weight:	Approximately 25 ounces

ENVIRONMENT

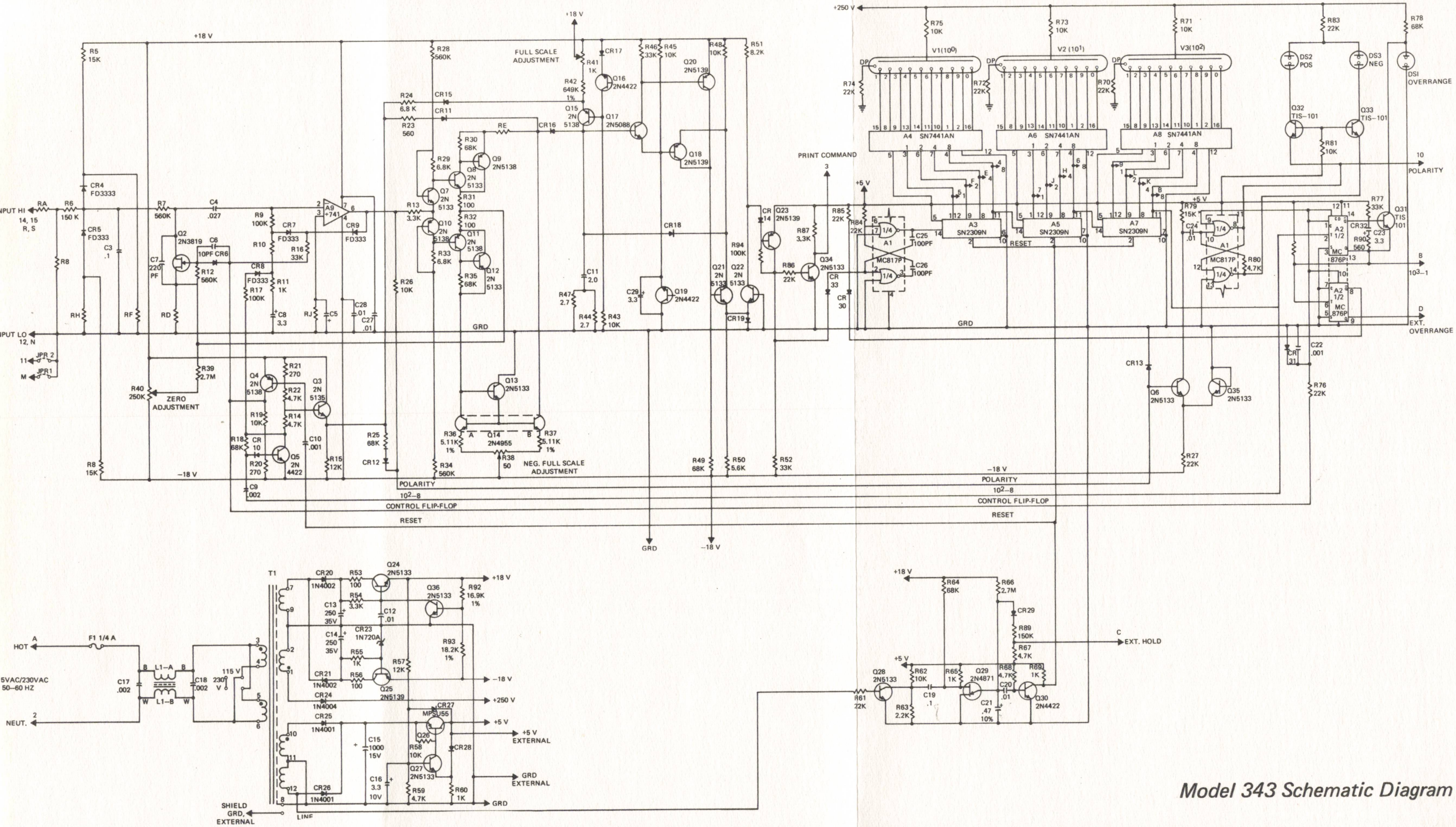
Temperature:	Operating range 0°C to +55°C
Humidity:	80% maximum relative humidity



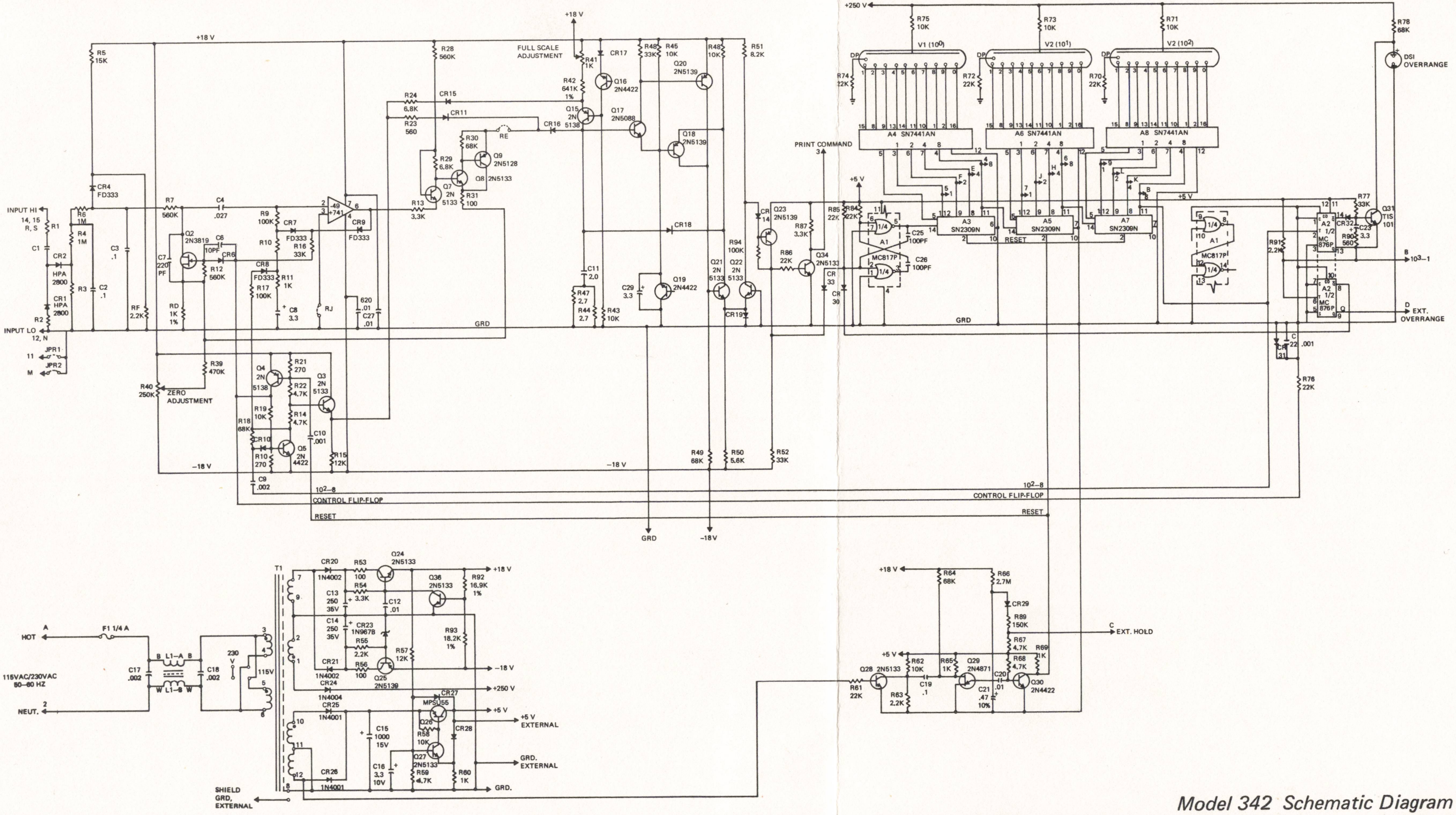
342 Pin Configuration



Model 340A Schematic Diagram



Model 343 Schematic Diagram



Model 342 Schematic Diagram